

Policy & Procedure (P&P)

| Policy Title : | | |
|---------------------------------|----------------------|----------------------|
| FRESH FROZEN PLASMA PREPARATION | | |
| Department | Index No. | Scope |
| Laboratory & Blood Bank | LAB-057 | All Blood Bank staff |
| Issue Date | Revision NO | Effective Date |
| 1432/06/04 | 3 | 1441/7/19 |
| Review Due Date | Related Standard NO. | Page Number# |
| 1443/7/19 | CBAHI (LB.44) | 5 |

01. Policy:

- 01.1. Plasma is separated from cellular blood elements within 6-8 hours of phlebotomy and frozen to preserve the activity of labile factors.

02. Definition :

FFP: Fresh Frozen Plasma

03. Purpose :

- 03.1. The aim of this policy is to prepare FFP and separate it from cellular components to provide the needed coagulation factors and control bleeding.

04. Procedure :

FFP components are prepared by separating and freezing the plasma from the whole blood within 8 hours after collection.

When plasma is collected by apheresis, it is prepared within 6 hours.

When stored at -18°C or colder, FFP contains maximum levels of labile and non-labile clotting factors and has a shelf life of 12 months from the date of collection.

FFP frozen maintained at -65°C may be stored up to 7 years FFP unit volume is 200-250 ml.



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04.1. Materials

- 04.1.1. Refrigerated centrifuge
- 04.1.2. Freshly collected whole blood
- 04.1.3. Plastic clips
- 04.1.4. Dielectric sealer
- 04.1.5. Plasma extractor
- 04.1.6. Balance and small weights
- 04.1.7. Deep freezer -18°C or cooler.

04.2. Preparation Methods

- 04.2.1. Ensure that the plasma is frozen solid within 8 hours after whole blood collection from the donor and with 6 hours after apheresis collection.
- 04.2.2. After centrifugation of the whole blood at 2600 for 7 minutes (light spin) and its separated to packed red blood cell and platelet Rich plasma (PRP), separate the platelet concentrate form FFP by using (heavy spin)
- 04.2.3. Place the primary bag containing centrifuged plasma on plasma expressor and release the spring allowing the plate of expressor to contact the bag.
- 04.2.4. Penetrate the closure of the primary bag allowing flow of plasma into the satellite bag
- 04.2.5. Express the plasma into the empty bag leaving 50-60ml plasma along with platelets.
- 04.2.6. Seal the tube between the primary bag and the plasma satellite one in two places 5 cm in between.
- 04.2.7. Check that the satellite bag has the same donation number and donor's initials as that on the primary pack and cut the tube between the two seals.

04.3. Storage

One year : at between -18 and -30 C

04.4. Transport

Maintain the frozen state in a properly insulated container.



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04.5. Expiration

One year : at between -18 and -30 C

04.6. Quality Control: quarterly : every 3 months

- 04.6.1. Select 1% of the quarterly production but not less than 12 FFP units
- 04.6.2. Remove units from the deep freezer 30 min earlier
- 04.6.3. Units represent all ABO groups and from different dates of preparation (group A plasma has higher FVIII than group O)
- 04.6.4. Place each unit into a separate disposable plastic bag and thaw in the Plasma Thawing machine at 37 C
- 04.6.5. Weight each unit, calculate the volume by dividing wt by plasma sp.gravity : 1.03
- 04.6.6. Mix well, draw 3 ml into properly labeled tube and send for assay of FVIII.
- 04.6.7. Calculations:

$$\text{FVIII: FVIII IU/mL} \times \text{volume (ml)} = \text{IU/ bag}$$

- 04.6.8. Accepted values: 75% of the tested units must have a minimum of

FVIII 700 IU/L

If less than 75% is not accepted , a corrective action should be implemented by the supervisor and the doctor after elucidating the cause.



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Specifications:

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| <u>Crossmatch</u> | the crossmatch is not required , only a blood sample for blood grouping may be required |
| <u>Approximative volume</u> | -150-250 ml per bag |
| <u>Expiration</u> | <u>one year</u> to ensure maximum patient benefit plasma should be infused within 6 hours of thawing |
| <u>Storage conditions</u> | <u>one year at between -18 and -30 C</u> |
| <u>Transport conditions</u> | Maintain frozen state |

05. Responsibilities :

All laboratory & Blood Bank staff of Al-Qunfudah General Hospital.

06. Equipment & Forms

FFP QC form

Blood tracing

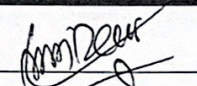

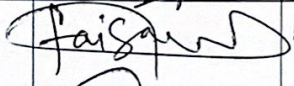


07. Attachment :

Link to LAB-060 Blood components preparation using REVEOS automated blood processing System

08. Reference

- 08.1. The Technical manual of the American Association of Blood Banks , 2016
- 08.2. The unified Practical Procedure Manual for Blood Banks in The Arab Countries 2013

Preparation , Reviewing & Approval Box

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